

Epidemiology:

- Affects 1 million people in USA per year (2/3 seek medical care).¹ Bilateral in 1/3 cases.²
- Affects both sedentary and athletic populations.¹
- Peaks in 40's – 60's, earlier in runners.²

Pathology:

- Likely overuse injury from running or standing, causing micro-tears at the insertion of the fascia on the medial tuberosity of the calcaneus leading to chronic degenerative process.^{1,2}

Risk Factors:

- Obesity, sedentary lifestyle, excessive training, faulty running shoes, running on hard surfaces, flat feet, foot pronation, high arched feet, leg length discrepancy, tightness of Achilles tendon and intrinsic foot muscles.^{1,2}

Symptoms:

- Heel pain with first step out of bed in morning or after prolonged sitting.¹
- Typically improved w/ ambulation throughout day, can intensify by day's end w/ prolonged time on feet.¹

Diagnosis:

- Gait: may be walking on ball of foot (equine position).¹
- Sharp, stabbing pain on palpation of the medial plantar calcaneal region.¹
- Pain with passive 1st toe or ankle dorsiflexion.¹
- Toes held in dorsiflexion w/ one hand, local point tenderness on palp from heel to forefoot w/ other hand.²
- Imaging with x-ray, US or MRI appropriate to r/o other causes of pain & confirm dx in recalcitrant cases.^{1,2}

Initial Treatment, inexpensive and noninvasive:

- Self-limiting, usually improves in 1 year w/o treatment.^{1,2}
- Rest and activity modification (no running, jumping, dancing).^{1,2}
- Wear shoes w/ good arch support. No slippers or other flat-footed shoes, no barefeet.²
- Home stretching exercises for plantar fascia & calf muscle ([towel](#), [toe curl](#), [foot-ankle circles](#), wall, step).^{1,2}
- Ice massage.^{1,2}
- Acetaminophen or NSAIDs.^{1,2}
- OTC heel cup or arch supports.^{1,2}
- Weight loss (in obese patients).^{1,2}

If after 2 weeks, symptoms persist, more expensive and invasive treatments can be considered:

- Steroid & anesthetic injections. Repeated injections → heel pad atrophy & fascia rupture^{1,2}
- Custom orthotics.^{1,2}
- Night splints. Conflicting evidence, poor compliance.² Anterior splints may be better tolerated than posterior.¹
- Physical therapy referral for stretching and iontophoresis.^{1,2}

Recalcitrant disease:

- Extracorporeal shock wave therapy.^{1,2}
- Surgery: Plantar fasciotomy.^{1,2}
- More costly tx w/ uncertain benefit: Botox, whole blood or platelet rich plasma inj. Radiotherapy, cryosurgery, CAM, prolotherapy, dry needling.^{1,2}

1) Goff JD, Crawford R. "[Diagnosis and treatment of plantar fasciitis.](#)" Am Fam Physician. 2011 Sep 15;84(6):676-82.

2) [UpToDate - Plantar Fasciitis](#)